WHAT IS CLAIMED IS:

1. A method of manufacturing semiconductor packages, comprising the steps of:

providing a die carrier, the die carrier having a front side and a back side and comprising a plurality of substrate units, and applying an adhesive on the substrate units to mount at least one semiconductor die to each of the substrate units and on the front side of the die carrier via the adhesive;

placing and securing the die carrier in a jig fixture, the jig fixture comprising a submold and at least one exhaust passage communicated with the outside of the jig fixture, and drawing air in the jig fixture through the exhaust passage to the outside of the jig fixture to form a negative-pressure environment in the jig fixture during a curing process;

electrically connecting the semiconductor dies to the die carrier via a plurality of first conductive elements;

forming an encapsulation body to encapsulate the semiconductor dies and the first conductive elements;

attaching a plurality of second conductive elements to the back side of the die carrier; and

singulating the die carrier to separate apart the plurality of substrate units.

2. The method as claimed in claim 1, wherein the die carrier is a matrix substrate strip comprising the plurality of substrate units.

3. The method as claimed in claim 1, wherein the adhesive is a thermally conductive adhesive.

4. The method as claimed in claim 1, wherein the jig fixture comprises a top mold and a bottom mold, and the bottom mold is formed with a cavity for accommodating the submold and the semiconductor dies.

5. The method as claimed in claim 1, wherein the submold is replaceable.

6. The method as claimed in claim 1, wherein the submold has a top surface and a plurality of exhaust holes extending through the submold.

7. The method as claimed in claim 6, wherein the die carrier is placed in the jig fixture in an upside-down manner that the semiconductor dies abut the top surface of the submold.

8. The method as claimed in claim 6, wherein the exhaust passage has two end portions, with one end portion communicated with the exhaust holes and the other end portion connected to a mini-valve on the jig fixture to be in communication with the outside of the jig fixture.

9. The method as claimed in claim 1, wherein the first conductive elements are gold wires.

10. The method as claimed in claim 1, wherein the second conductive elements are solder balls.

11. The method as claimed in claim 10, wherein the semiconductor packages are BGA (Ball Grid Array) semiconductor packages.

12. A clamping device for manufacturing a semiconductor package in a mold , comprising:

a top mold;

a bottom mold to be engaged with the top mold, the bottom mold having a cavity;

a submold received in the cavity of the bottom mold; and

at least one exhaust passage formed in the lower mold and communicated with the outside of the clamping device, for allowing air in the cavity to be drawn out of clamping device through the exhaust passage to form a negative-pressure environment in the cavity.

13. The clamping device as claimed in claim 12, wherein the clamping device is a jig fixture.

14. The clamping device as claimed in claim 12, wherein the submold is replaceable.

15. The clamping device as claimed in claim 12, wherein the submold has a top surface and a plurality of exhaust holes extending through the submold and communicated with the cavity.

16. The clamping device as claimed in claim 15, wherein the exhaust passage has two end portions, with one end portion communicated with the exhaust holes and the other end portion connected to a mini-valve formed on the clamping device to be in communication with the outside of the clamping device.